(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

554802

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/088759 A2

(51) International Patent Classification[7]: H01L 31/00

(21) International Application Number:
PCT/GR2004/000019

(22) International Filing Date: 2 April 2004 (02.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20030100155 2 April 2003 (02.04.2003) GR

(71) Applicant and
(72) Inventor: PAPADOPOULOS, Alexandros [GR/GR]; 15 Herodotou Street, Dionysos, GR-145 76 Athens (GR).

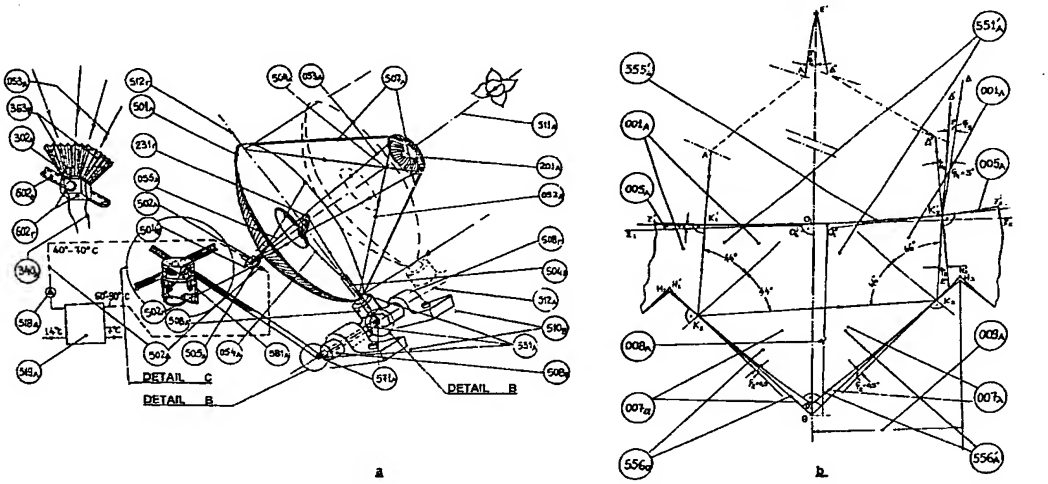
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HYBRID PHOTOVOLTAIC CONCENTRATING SYSTEM WITH CORRECTED TOTAL REFLACTION REFLECTORS FOR EVERY LARGE CONCENTRATING RATIOS



a b

(57) Abstract: This invention refers to the development of innovative parabolic and paraboloid total reflection Reflectors with Curved Rectangular Total Reflection Prisms, which raise the imperfection of diffusion at the conventional rectangular prisms of the conventional parabolic and paraboloid TRR so that an accurate focusing and high Concentration (500 till 1500 suns or even more) are succeeded. Also refers to the development of an Innovative Solar Wave Guide with total reflection walls (Solar Artery), with Curved Rectangular Total Reflection Prisms which raise the phenomenon of diffusion (and losses) at the conventional Rectangular prisms of the conventional Hollow Solar Wave Guides and increase, one or even more orders of magnitude, the range of Solar Arteries for the same level of losses. The invention refers also to the development of Hybrid Concentrating Solar Systems, which use corrected parabolic and paraboloid reflectors with Curved Rectangular Total Reflection Prisms as above and promise competitive cost of thermal, cooling energy and electricity from the Sun, as well as refers to hybrid Solar Systems that combine the ability of creation of an entry narrow beam in Solar Arteries with Solar Arteries as above for the substitution of buildings-lighting with solar lighting over and above the production of thermal, cooling energy and electricity.

WO 2004/088759 A2